

REMARKS/ARGUMENTS

Reconsideration and withdrawal of the rejections of the application are respectfully requested in view of the amendments and remarks herewith, which place the application into condition for allowance. The present amendment is being made to facilitate prosecution of the application.

I. STATUS OF THE CLAIMS AND FORMAL MATTERS

Claims 16-37 are pending in this application. Claims 16, 26, 31, and 35 are independent. Claims 16 and 26 are hereby amended. Claims 1-15 have been canceled without prejudice or disclaimer of subject matter. No new matter has been introduced by this amendment. Support for this amendment is provided throughout the Specification. Changes to claims are not made for the purpose of patentability within the meaning of 35 U.S.C. §101, §102, §103, or §112. Rather, these changes are made simply for clarification and to round out the scope of protection to which the Applicants are entitled.

II. REJECTIONS UNDER 35 U.S.C. §103(a)

Claims 16-21, 26-28, and 31-37 were rejected under 35 U.S.C. §103(a) as allegedly unpatentable over U.S. Patent No. 6,088,569 to Bach, et al. in view of U.S. Patent No. 3,204,185 to Robinson.

Claims 22 and 29 were rejected under 35 U.S.C. §103(a) as allegedly unpatentable over U.S. Patent No. 6,088,569 to Bach, et al. in view of U.S. Patent No. 3,204,185 to Robinson and further in view of U.S. Patent No. 5,305,347 to Roschmann, et al.

Claims 23 and 30 were rejected under 35 U.S.C. §103(a) as allegedly unpatentable over U.S. Patent No. 6,088,569 to Bach, et al. in view of U.S. Patent No. 3,204,185 to Robinson in view of U.S. Patent No. 5,305,347 to Roschmann, et al. and further in view of U.S. Patent No. 6,829,475 to Lee.

Claim 24 was rejected under 35 U.S.C. §103(a) as allegedly unpatentable over U.S. Patent No. 6,088,569 to Bach, et al. in view of U.S. Patent No. 3,204,185 to Robinson in view of U.S. Patent No. 5,970,400 to Dwyer.

Claim 25 was rejected under 35 U.S.C. §103(a) as allegedly unpatentable over U.S. Patent No. 6,088,569 to Bach, et al. in view of U.S. Patent No. 3,204,185 to Robinson and further in view of U.S. Patent No. 6,317,589 to Nash.

Claim 16 now recites, *inter alia*:

“...wherein said at least one down-conversion stage has a variable oscillation frequency which is adjustable to detune a wanted center frequency of a wanted signal part from a center frequency of said at least one IF filter so that an unwanted signal part adjacent to said wanted signal part lies outside said fixed IF bandwidth, and

said AM receiver is configured and adapted for adjusting said variable oscillation frequency on the basis of a feedback signal supplied downstream from said down-conversion stage in order to detune.”

Applicants respectfully submit that Bach fails to teach or suggest the aforementioned **feedback** features of the independent claims, i.e. claims 16, 26, 31 and 35. Furthermore, Applicants submit that Robinson fails to disclose the subject matter missing in Bach.

Specifically, Applicants submit that the differences between the features of the present application and Robinson are that Robinson describes a feedback which results in a phase lock of the received signal and the variable frequency oscillator. In the present application,

neither the phase lock is needed nor does the claimed invention use the feedback for this purpose. The present invention uses the feedback to remove the neighbour channel with the highest level.

Applicants submit that the purpose of Robinson is to tune exactly to the received signal. The purpose of the present application is to detune the received signal such that the neighbour channel with the highest level is removed in the IF filter. The essence of the present application is to detune a received signal such that the neighbour channel with the highest level is removed. Therefore a feedback loop is used from the digital processing (which determines the location (left or right side) and the level of the neighbour channel) to the variable frequency oscillator.

Specifically, Applicants submit that, as explicitly stated in Col. 1, lines 8-16 of Robinson, the teachings thereof relate to phase-lock receivers, specifically to improving the performance thereof in terms of: "phase range within which the receiver will maintain its so-called 'lock' with the input signal; the range of linear feedback control of the variable frequency oscillator which is used to develop a signal related to the phase error; or the probability of locking up the input signal."

Col. 3, lines 14-16 of Robinson cited by the Office Action relating to the motivation of the person skilled in the art to combine the teachings of Robinson with the teachings of Bach solely state that "the term variable frequency as employed here in signifies any adjustment whether in phase or frequency which is required to lock with the input signal Ei."

Applicants submit that neither of these passages nor elsewhere in Robinson is the motivation cited by the Office Action of having "the receiver to be capable receive any type of modulated incoming signal to have improved usage of being able to vary the signal by its height

to impose information on it and to optimally control the oscillating frequency and set it to a particular frequency to lock with the input signal E_i .”

In addition to the aforementioned uncertainty whether the techniques of Robinson provide the improvements cited by the Office Action within the context of Robinson itself, there is no evidence that such improvements could be achieved by the techniques of Robinson when applied to Bach. Indeed, the Office Action fails to support their conception of a functional merging of the features of Bach and Robinson. Applicants submit that the combined teachings of Robinson and Bach would yield a dysfunctional apparatus. Therefore, Applicants submit that the combination of Robinson and Bach is improper.

In assessing the patentability of the independent claims, the Office Action consistently equates mixer 306 of Bach with the claimed down-conversion stage. As is evident from col. 2, lines 1-6 and col. 3, lines 22-36 of Bach, local oscillator 308, dual synthesizer 310 and controller 311 are essential to the apparatus of Bach, *i.e.* are essential for filtering out undesired signal components as is a central aim of Bach. However, local oscillator 308, dual synthesizer 310 and controller 311 generate the signal via which mixer 306 is controlled. It is consequently not apparent how a feedback signal as taught in Robinson could be incorporated into the apparatus of Bach without compromising the functionality thereof.

Summarizing the above, Applicants submit that the combination of Robinson and Bach lacks motivation and, furthermore, lacks feasibility. Therefore Applicants submit the combination is improper.

Claim 31 recites, *inter alia*:

“...wherein said AM receiver is configured and adapted for shifting, by means of said down-conversion stage, said input signal into an IF range on the basis of said control signal such that said

center frequency of said shifted input signal is detuned from said center frequency of said IF filter.” (emphasis added)

Applicants submit, as reflected in col. 2, lines 1-3 and 13-14 as well as col. 4, lines 38-39 of Bach, the frequency shifting taught therein makes no use of a center frequency (of a desired signal component or of an IF filter) as a reference. Instead, Bach teaches that an end of the desired signal is shifted to [align with] the filter frequency bandwidth of a respective filter.

Bach fails to teach the feature of claims 31 wherein the center frequency of the shifted input signal is detuned from the center frequency of the IF filter.

Furthermore, Applicants submit that Bach is not pertinent to the features of dependent claims 17, 27, 32 and 36.

With regard to these claims, the Office Action cites col. 4, lines 44-58 of Bach. Since this passage of the prior art neither teaches nor suggests an analysis of the power of FFT carriers nor a bit error rate fine tune, Applicants assume that the Office Action interprets this passage as teaching the third alternative feature of the aforementioned claims, namely “optimizing an automatic gain control voltage.” In doing so, however, the Office Action appears to ignore the introductory clause of claims of claims 17, 27 and 36, wherein it is set forth that the claimed AGC optimization is [employed] for detecting an unwanted signal part. The Office Action similarly appears to ignore the introductory clause of claim 32, wherein it is set forth that the claimed AGC optimization is [employed] for setting a detuned center frequency to a first center frequency and for determining said first center frequency.

Applicants submit that the aforementioned passage of Bach neither teaches nor suggests automatic gain control. In the claimed context underlined above follows readily from col. 4, lines 47-49 of Bach: “The AGC loop 322 is designed to maintain the amplitude of the desired signal 202 at a level required by the demodulator back-end 328.”

In other words, Bach merely teaches an AGC loop maintaining the amplitude of a desired signal at a particular level. It neither teaches nor suggests an AGC loop for detecting an unwanted signal part or for setting a detuned center frequency to a first center frequency and for determining said first center frequency as claimed.

Therefore, Applicants believe that the features of claims 17, 27, 32 and 36 further distinguish the present invention over the prior art.

III. DEPENDENT CLAIMS

The other claims in this application are each dependent from one of the independent claims discussed above and are therefore believed patentable for at least the same reasons. Since each dependent claim is also deemed to define an additional aspect of the invention, however, the individual reconsideration of the patentability of each on its own merits is respectfully requested.

CONCLUSION


In the event the Examiner disagrees with any of statements appearing above with respect to the disclosure in the cited reference, or references, it is respectfully requested that the Examiner specifically indicate those portions of the reference, or references, providing the basis for a contrary view.

In view of the foregoing amendments and remarks, it is believed that all of the claims in this application are patentable and Applicants respectfully request early passage to issue of the present application.

Please charge any additional fees that may be needed, and credit any
overpayment, to our Deposit Account No. 50-0320.

Respectfully submitted,

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